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ABSTRACT

Evaluating library collections by comparing them to bibliographies has a long history in research libraries. This evaluative study examined all 107 titles within the "Women in Botany" section of the Herbarium Library at The Ohio State University (OSU). The Herbarium is not part of the OSU Library system, but functions as a satellite to the Biological Sciences and Pharmacy Library. The bibliographies of five recently (1993-1996) published scholarly works on the history of women in botany and science were compared to these titles for the purpose of determining if historical research in the history of women in botany and science could be supported by this collection. Herbarium titles accounted for less than 5% of the titles found in any of the five test bibliographies; therefore, this collection would not have supported the historical research of these five works. The bibliography with the most matches and the bibliography with the least matches were searched online in OHIOLINK to compare the relative strengths of the Herbarium collection against those of The Ohio State University, Bowling Green State University, and the University of Cincinnati. The results show that the Herbarium is very weak when compared to any of the three collections. Lists of herbarium titles found in the five test bibliographies and herbarium titles not found in OHIOLINK are appended. (Contains 17 references.) (Author/SWC)

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THE HISTORY OF WOMEN IN BOTANY AND SCIENCE AT THE HERBARIUM LIBRARY:EVALUATION FOR HISTORICAL RESEARCH

A Master's Research Paper submitted to the
Kent State University School of Library Science
in partial fulfillment of the requirements
for the degree Master of Library Science

by

Sandra J. Wicker

May, 1997

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ABSTRACT

Evaluating library collections by comparing them to bibliographies has a long history in research libraries. This evaluative study examined all (107) titles within the "Women in Botany" section of the Herbarium Library at the Ohio State University. The bibliographies of five recently (1993-1996) published scholarly works on the history of women in botany and science were compared to these titles for the purpose of determining if historical research in the history of women in botany and science could be supported by this collection. Herbarium titles accounted for less than 5% of the titles found in any of the five test bibliographies; therefore, this collection would not have supported the historical research of these five works. The bibliography with the most matches and the bibliography with the least matches were searched online in OHIOLINK to compare the relative strength of the Herbarium collection against those of The Ohio State University, Bowling Green State University, and the University of Cincinnati. The results show that the Herbarium is very weak when compared to any of the three collections.

Master's Research Paper by

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TABLE OF CONTENTS

INTRODUCTION.....1

PROBLEM STATEMENT.....4

LITERATURE REVIEW.....4

RESEARCH OBJECTIVES.....11

METHODOLOGY.....12

PROCEDURE.....13

ANALYSIS OF DATA.....14

CONCLUSION.....18

REFERENCES.....19

APPENDIX A.....20

APPENDIX B.....21

LIST OF TABLES

TABLE I.....15

TABLE II.....16

TABLE III.....17

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INTRODUCTION

A BRIEF HISTORY OF THE HERBARIUM LIBRARY

The Herbarium Library is located within the Herbarium (Room 1350) at the Museum of Biological Diversity, 1315 Kinnear Road, Columbus, Ohio 43212. An herbarium is a lending library of preserved plant specimens. The Library began under Dr. Tod Stuessy's direction in 1979. He began with botanical books and other journals on permanent loan from the former Biology Library , when both Library and Herbarium were located in the Botany and Zoology building on The Ohio State University's (OSU's) main campus.

The collection was not developed along library guidelines, but became a collection of personal collections, donated after the deaths of eminent faculty members, notably those of Dr. Elton Paddock, Dr. William Bridge Cooke, and Dr. Emanuel Rudolph. The Library grew slowly during the 1980's, with a major donation of ecology books from Battelle Library. The explosive growth began in the 1990's, especially after the Herbarium moved to its present location on Kinnear Road, during Winter Quarter, 1992. The majority of material, 11,000 books and journals, came from Dr. Rudolph's collection and is housed in three rooms within the Herbarium Library--the Rare Books Room, the Rudolph Memorial Reading Room, and the Main Reading Room.

The Library is not part of the OSU Library system, but functions as a satellite to the Biological Sciences and Pharmacy Library, located on the main campus. It is a non-circulating research library, serving the OSU biological sciences faculty, staff, and students, the Columbus Zoo; other herbarium libraries world-wide, independent researchers; and any others needing specialized botanical information. Its strongest areas are in mycology and historical works in botany, such as those by Louden, Lincoln, Linnaeas and De Candolle.

The "Women in Botany" section of the Rudolph collection consists of 107 biographical books about women and their contributions to science. Some of the books are classic women's studies titles, such as: Margaret Rossiter's ***Women Scientists in America:Struggles and Strategies to 1940*** (1982); Pnina G. Abir-Am's ***Uneasy Careers and Intimate Lives: Women in Science, 1789-1979*** (1987); and Jonathan R. Cole's ***Fair Science: Women in the Scientific Community*** (1987). There are also regional publications, mostly from Ohio, Michigan and Illinois, plus general biographies about women, some published before 1900.

The women's section was part of the 11,000 items moved to the Herbarium after Dr. Rudolph's death in May, 1992. His colleague, Dr. Tod Stuessy, directed professional librarian Sheila Campbell and 20 volunteers from the Columbus area in the move, which took place during the summer and fall of 1992. The books were chosen from different areas of Dr. Rudolph's collection and not all are botanical. Dr. Stuessy's expert subject knowledge as a botanist was used as a selection guideline rather than any formal collection evaluation method.

The Rudolph Memorial Reading Room, located in Dr. Rudolph's former Herbarium office, is a simulation of his home study. It reflects Rudolph's wide range of interests and includes a large section of biographies of botanists and individuals in related disciplines. The room was dedicated in May, 1993 (Dedication brochure).

Dr. Rudolph was an eminent Polar lichenologist in the Department of Plant Biology at The Ohio State University. His long teaching career, from 1961-1989, was distinguished and varied. He was also associated with the Institute of Polar Studies at Ohio State; Rudolph Glacier in Antarctica is named for him (Stuckey biography--***The Bryologist*** 97:439, 444). His research and publications encompassed polar science, lichenology, and the history of botany.

Rudolph produced 350 publications, of which 50 were abstracts, 100 journal articles, and 200 were book reviews. The majority of his papers were on the history of botany, but he also wrote on Antarctic plants, the Arctic and miscellaneous areas of botany. He was also a member of almost forty professional societies and other organizations (Stuckey, ***The Bryologist*** 97:441).

In 1982, Dr. Rudolph became interested in the history of women's contributions to the field of botany and by 1989 had published three major articles about 19th century women botanists:

"Women in Nineteenth Century American Botany:A Generally Unrecognized Constituency" ***American Journal of Botany*** v. 69:1346-1355.

"Almira Hart Lincoln Phelps (1793-1884) and the Spread of Botany in Nineteenth Century America". ***American Journal of Botany*** v.71:1161-1167.

"Women Who Studied Plants in the Pre-Twentieth Century United States and Canada". ***Taxon*** v. 39:151-205.

He had planned to write more on this subject after his retirement in 1989, but his early death prevented this.

Besides being a distinguished scientist and scholar, Dr. Rudolph and his wife, Ann Waterman Rudolph, were also avid book collectors, having amassed a personal collection of 53,000 volumes at the time of his death. They owned two houses--one of which was used exclusively for books.

Dr. Rudolph was a strong supporter of libraries, having served as an assistant librarian at the Missouri Botanical Garden during the summers of 1954 and 1955 (Stuckey 1994,439). He and Ann were founding members of the OSU Friends of the Libraries, and he served on the Friends' board of directors from its beginning in 1975 until his death. He served as President from 1978-1980, and had just been re-elected President in May, 1992 (OAS Newsletter Supplement Dec. 1992, p. 164H).

Dr. Rudolph was also instrumental in establishing the Columbus campus of the Kent State University's graduate program in Library Science (Stuckey, ***Michigan Botanist*** 34:16).

PROBLEM STATEMENT

The purpose of this study was to evaluate the "Women in Botany" section of the Herbarium Library in order to determine its value for supporting historical research on the topic of "The History of Women in Botany/Science". Since the Herbarium Library is a research facility, the collection should reflect that mission. The Library's collection was in the process of being cataloged, which provided an opportune time to do an evaluation.

Determining the research strength of this small collection provides a guideline for future acquisitions in this area. This study also benefits future offerings of any History of Biology courses offered at Ohio State, such as the joint Biology/Women's Studies course--Biology 597, Biology of Human Diversity:Race, Gender, Ethnicity (a Senior level course), since many of Dr. Rudolph's books are not duplicates of those in other OSU libraries.

LITERATURE REVIEW

Libraries have traditionally spent more time on the evaluation of their collections than on the evaluation of any other facet of the library. The major reasons for this include the factors that sheer numbers do not guarantee a quality collection; the collection is something that can be examined tangibly; and libraries are being forced to do more with less time, money, and staff (Baker 1991,39). Since every library has its own community of users and its own unique needs, any evaluation of its collection should be based on how well it serves those needs (Popovich 1978,111). There is no **one** best technique which can be used to evaluate all libraries (Baker 1991,39).

Evaluation is needed for two purposes: to aid acquisition decisions and to help the librarian determine the collection's areas of strength (Coale 1965,173). Once the purpose of the evaluation is decided, then the librarian can choose which approach would be best--either a materials-centered study to determine collection size, diversity and quality or a use-centered study to measure use, such as circulation and inter-library loan activity.

For the evaluation of specialized, research-oriented collections, the materials-centered method of bibliographic or list checking is the best choice (Lancaster 1993,31). List checking assesses a collection in relation to what is published, not necessarily what is immediately in demand, available, or being used (Hall 1985,14). There are advantages and disadvantages to this method. Some of the advantages are that: 1) there are a variety of available published lists; 2) these lists are compiled by expert librarians and subject specialists; 3) many lists are updated at regular intervals; 4) specialized lists can be compiled by the individual libraries; and 5) list searching is easy, but time-consuming. Some disadvantages are that: 1) published lists may have been used for buying guides for the library being evaluated; 2) lists can be biased; 3) lists can be subject appropriate, but still not reflect the interests or collection levels of the library being evaluated; 4) many lists are out of date; 5) lists may not represent the library's subjects or purpose; 6) and lists may be hard to find or compile for some subjects (Hall 1985, 14).

A survey of the literature of evaluation studies reveals that a variety of methods have been used, including quantitative--compiling statistics; and qualitative--comparing collections to bibliographies or lists; collecting user opinions; applying standards, such as the Clapp-Jordan formula (a formula used to determine if the library owns enough volumes to support the institution's academic program) and by direct observation (Hall 1985,34). The studies report the coverage percentages of the collections, subject gaps that needed to be filled, and in some cases, the improved first-hand knowledge of what was actually on the shelves. The studies report sources that were not good choices, and

how results can vary according to the source used. Very few studies have been done to evaluate science or technology collections within libraries.

Some of the studies conducted in specialized subject areas are as follows. The classic study on historical research was Robert Peerling Coale's *"Evaluation of a Research Library Collection:Latin-American Colonial History at the Newberry"*. Coale conducted his study at the Newberry Library (which specializes in humanities) in Chicago. The results are presented in his Master's Thesis for the Graduate Library School, University of Chicago, 1964. The technique used by Coale was also used by Olden and Marsh (1990) to evaluate four academic libraries in Africa studies (Lancaster 1993,31).

Coale took a selected group of scholarly books on Latin-American history and then checked the bibliographies of these books against the Newberry's collection of colonial history of Spanish America--Mexico, Peru, Chile, Colombia, and Venezuela. The bibliographies were, therefore, not theoretical lists of *best* books, but were actual works that authors had used or at least examined (Coale 1965,174). The bibliographies for which the Newberry scored the best and the worst for each area were then checked against the catalogs of the libraries of the Hispanic Society of America, the University of Texas, and the University of California to determine the Newberry's relative standing with other libraries with holdings in this subject area.

The purpose of Coale's study was to determine the value of the Newberry collection for historical research. Rarity or value of a specific title was not considered. The survey method did not examine the total collection, but did examine its depth in a particular subject area (Coale 174, 175). The study revealed that the Newberry's collection was strongest for the 16th century and, in printed material, the Mexican and Peruvian collections were equal to those of the Universities of Texas and California. However, Texas and California were superior in the later centuries of Spanish rule in Mexico, Peru, and Chile. The Newberry surpassed the Library of the Hispanic Society which was not a general library but focused on the art, history and literature of Spain,

Portugal and colonial Hispanic America. The study results showed that the Newberry could support historical research in the colonial history of Spanish America.

The Newberry's collection can be compared and contrasted to the Herbarium Library in the following ways: 1) both began with a core of donated items from a personal collection, but Coale did not have the support of faculty expert knowledge to aid his evaluation, since the Newberry has no faculty. The Herbarium benefits from the expertise of both Dr. Rudolph and Dr. Stuessy; 2) Coale's study included primary sources in his subject areas, while the Herbarium Library does not have any primary sources in the women's section (some of the biographical subjects have printed material in the Rare Book Room, but there are no original papers to study); 3) in both cases there is no satisfactory standard bibliography; 4) Coale determined the Newberry's relative standing with three other libraries by checking their card catalogs. Now that computers are firmly entrenched in most academic libraries, online searches can be conducted world-wide, using the Internet, making this sort of comparison much easier.

Instead of scholarly monographs, Marcia A. Porta and F. W. Lancaster chose to check bibliographic references from several indexing/abstracting sources, using journals owned by the University of Illinois. Their study *"Evaluation of a Scholarly Collection in a Specific Subject Area by Bibliographic Checking: a Comparison of Sources"*, 1988, was conducted at the University of Illinois at Urbana-Champaign. The purpose of the study was to compare estimates of coverage of an academic library in a particular subject area, irrigation, from samples taken from several different sources.

The initial sample 500 items, was chosen at random from ***Irricab*** v. 10(1985). They found that the University of Illinois owned 250 or 50% of the items.

Of these 250 items that the University did own, 174 or 70% were in the Agriculture Library, while 76 (30%) were scattered in other campus libraries.

Subsamples were chosen from this original sample in order to compare the subject coverage of *irrigation* in the Agriculture Library and the other campus libraries. These results were then compared to a subset sample of those items not owned by the University of Illinois, but requested through inter-library loan. The results varied. The initial ***Irricab*** sample showed the University owning 50% of the 500 items chosen , but the subsamples showed that the Agriculture Library actually had an 86% coverage and the other campus libraries together had 63%.

When 69 of the original 250 ***Irricab*** items not owned by the University of Illinois were requested by inter-library loan, 58% were found. The final sample was taken from three "core" journals owned by the University: ***Advances in Irrigation, Irrigation Science,*** and ***Journal of Irrigation and Drainage Engineering.*** After deleting 21 self-citation entries from the original 500 references,the University of Illinois owned 77%.

The conclusion of the study was that it is possible to obtain widely different coverage estimates in a specialized subject field depending on the sampling source. The ***Irricab*** source was not a good one, since it included too many obscure items. However the original sample may not reflect what the University actually owns on the subject of irrigation, but may represent the needs of the users (Porta and Lancaster 135-7).

Like the subject of irrigation at the University of Illinois, the history of women in Botany/Science is not a major research focus area at The Ohio State University, but it did merit evaluation in order to identify weaknesses in the Herbarium Library's collection. The small history of women in Botany/Science collection in the Herbarium (107) being evaluated eliminated the need for sampling.

In one of the rare studies conducted in a science library, John Laurence Kelland combined direct observation and subject expertise to evaluate the vertebrate

Zoology collection at the R. M. Cooper Library, Clemson University. Kelland, besides being involved in collection development and reference work at the Cooper, also has a doctorate in biology. He examined the subdisciplines: ichthyology, herpetology, ornithology and mammalogy.

The objectives of the study "*An Evaluation of the Vertebrate Zoology Collection at the R.M. Cooper Library, Clemson University*" 1985) were to evaluate a narrow part of the collection using his subject expertise, increase first-hand knowledge of the collection and to finish the project as quickly as possible, since it was done during regular working hours. Kelland used a shelflist, books on the shelves and circulation statistics to gather his data.

The study concentrated on a narrow LCC number range, QL600-QL740, which included 1464 monograph titles on the shelves and 1762 cards in the shelflist. Reference, serial and juvenile titles were excluded from both figures. (Clemson is a land-grant school and a large part of its biology collection is at the popular level (Kelland 1985 33-35).

Kelland took two systematic samples of items to be examined, one from the shelflist (248) and one from items on the shelf (240). Circulation information was collected for each book by counting the number of times a book had circulated each year between 1974-1981. The scholarly level of the work was determined by examining the preface, introduction and text. Each book was assigned to one of three levels: professional and/or research, undergraduate, or popular. Kelland used this core information to determine which areas needed strengthening.

Circulation frequencies were adjusted for older books. Accession numbers, not copyright dates determined how long the library had owned the book and the means for each subdiscipline were calculated, including non-circulating books that were used in-house. T-tests showed no significant differences in age between the subdisciplines.

Kelland's conclusions showed a need for strengthening the ichthyology and herpetology collections (to support one undergraduate course each). Since the undergraduate level had a higher circulation, there should be more selection at that level. The results also showed that a non-circulating book may have heavy in-house use, if its physical condition is an accurate indicator of use.

This study provided a multi-dimensional analysis of the collection, since it used several observable variables, namely:copyright date, circulation frequency, scholarly level, and numbers of titles within call number ranges. It also provided the subject specialist, Kelland, with personal knowledge of the strengths and weaknesses of this area of the total collection, which would then guide future acquisition choices.

This study, using a narrow call number range, shelflist and circulation statistics, would be difficult to duplicate in the Herbarium Library. Since the women's section is uncataloged, the call number range may not be consistent. There is no shelflist, although the OSCAR online system (OSU's online catalog) does allow searching of nearby titles, and the Herbarium collection does not circulate. However, the direct observation method is directly applicable to the study reported here, since actual books on the shelves will be examined.

Another study (Stelk and Lancaster 1990) used textbooks as a source of evaluation of an undergraduate library . The study was conducted as a pilot study at the University of Illinois at Urbana-Champaign. It focused on religious studies, not a strong area at the University. Required texts from four courses offered during the spring of 1989 were chosen as the basis of the evaluation.

The texts from these four courses provided the bibliographies used in the evaluation. Each unique bibliographic reference was checked in the University's library catalogs to see how many titles were in the Undergraduate Library and how many were available in other libraries at Urbana-Champaign. After checking, the results showed that a student had a 50% chance of finding a cited item in the Undergraduate Library and an

80% chance that it would be found in another campus library. These results only showed ownership, however, the titles were not checked to see if they were actually on the shelf or missing. They also revealed that coverage of Christianity was not as great as that of Judaism, with the New Testament being especially weak. The results suggested that cited references from required texts in undergraduate courses could be useful for evaluating an undergraduate library collection. This was a small-scale study, but it did identify subject areas that needed more in-dept analysis (Stelk and Lancaster 1990, 193). The methods of this study would be of limited use in the Herbarium Library, since the Herbarium and its library are used primarily by graduate students and indepentent researchers, not undergraduate students.

Having considered the advantages and disadvantages of the different data collection methods used in these studies, a combination of research methods were chosen to gather data for this study. The research methodology included direct observation of the women's section for the purpose of determining what was actually in the collection, bibliographic checking--using recent scholarly works for the purpose of determining if the collection was capable of supporting current research into the history of women in botany and science, and an online search of bibliographic records in OHIOLINK to determine the collection's relative standing.

RESEARCH OBJECTIVES

The first objective was to detemine the depth of the women's section of secondary biographical material by checking the bibliographies of recently published books about women in the history of science and/or botany against the titles in the women's section, for the purpose of measuring the collection's ability to support historical research in this area, and to answer the question "Could these books have been written using this collection?"

Few standard bibliographies exist for the subject 'women in the history of science/botany. Two major ones are: Susan E. Searing's *"The History of Women and Science, Health, and Technology:A Bibliographic Guide to the Professions and the Disciplines"* University of Wisconsin, 1988 (revised 1993 by Phyllis Holman Weisbard) and Marilyn B. Ogilvie's *"Women and Science:an Annotated Bibliography"* Garland, 1996. The bibliographies from several books published between 1993-1996 and written by respected scientists or science writers were used for the evaluation to eliminate any possibility of bias. Dr. Rudolph could have used Searing to build his collection, but would not have been influenced by the books published after his death in 1992.

The second objective was to determine the relative standing of the Herbarium Library's women in science/botany collection to the holdings of the forty-nine Ohio colleges and universitites which form the OHIOLINK online network--especially to those of The Ohio State University, Bowling Green State University, and the University of Cincinnati (all schools with strong biology departments)--for the purpose of formulating an acquisitions policy based on a first-hand knowledge of the collection's strengths and weaknesses.

METHODOLOGY

This was a qualitative, collection-centered study, concerned only with the value of the collection for the purpose of historical research, using an adaptation of the evaluation methods used in former studies by Coale (1964) and Kelland (1985). The bibliographies of recently published books about women in science revealed what books are actually being used in this area, not just those appearing on a list of 'best books' in a standard bibliography. Five books were chosen from the 1996-97 ***Books in Print***, according to the following criteria:

1. they appeared under the subject headings--Women in Science; Women Scientists; Women Naturalists; Botany--Bibliography; or Botanists;

2. the author's work must have appeared in a review source, such as the journals listed in ***Book Review Index;***

3. the author must be a respected scientist and/or science writer with a biographical sketch in either ***Contemporary Authors, American Men and Women of Science,*** or ***Notable Women in the Life Sciences;***

4. the books must have been published between 1993-1996;

5. the books must have been physically available for use at either The Ohio State University or Ohio Wesleyan University;

6. and the books must reflect the time periods covered in the Herbarium Collection.

Since this evaluation did not require sophisticated statistical analysis, the results are presented in tabular form, showing frequency distribution and percentages. Calculations were performed on a personal computer. The study was interpreted using the following observable variables:

1. the appearance of Herbarium titles in the bibliographies of five recently published books on the subject of Women in Science; Women Scientists;Botany-Bibliography, or Botanists;

2. the results of the online OHIOLINK search of the bibliography with the most matches and the one with the least matches to Herbarium titles, when compared to the holdings of The Ohio State University, Bowling Green State University, and the University of Cincinnati--all schools with strong biology departments.

PROCEDURE

The bibliographies of five recently published scholarly books were compared to the 107 monograph titles in the Herbarium Library's "Women in Botany: section.

The five books chosen were:

1. Jasanoff, Sheila. ***Handbook of Science and Technology.*** 1995.
2. Keller, Evelyn Fox. ***Feminism and Science.*** 1996.
3. Rose, Hilary. ***Love, Power and Knowledge.*** 1994.
4. Shepherd, Linda Jean. ***Lifting the Veil:the Feminine Face of Science.*** 1993.
5. Shteir, Ann B. ***Cultivating Women, Cultivating Science.*** 1996.

The bibliography containing the most matches in the women's section and the bibliography containing the least matches were then searched online in OHIOLINK to determine the relative standing of the Herbarium Library when compared to the holdings at Ohio State, Bowling Green and the University of Cincinnati. This provided information about the uniqueness of the Herbarium collection, which could then be used to establish an acquisitions policy.

ANALYSIS OF DATA

This study was conducted to determine the depth of the Herbarium collection on the subject of the history of women in science/botany and also to determine its relative standing in this area to the collections of The Ohio State University, Bowling Green State University, and the University of Cincinnati, via a search online in OHIOLINK.

To determine the depth of the Herbarium's collection of biographical material on the history of women in science/botany, the bibliographies of five books published between 1993-1996 were checked against the Herbarium's 107 titles.

The results are reported in Table I. From this checking , it is clear that these five books could not have been written using the Herbarium's collection , since less than 5% of the items in any of the bibliographies were found in the Herbarium collection. The least number of titles, two (3.3%), were found in Evelyn Fox Keller's ***Feminism & Science,*** which is part of the ***Oxford Readings in Feminism*** series. The largest numer of titles, eight (1.5%) were found in the British author Ann B. Shteir's ***Cultivating Women,***

Cultivating Science. The low percentages are surprising , since Dr. Rudolph was a nationally known scholar and had compiled the collection in order to write about the history of women in science.

TABLE I.

HERBARIUM LIBRARY TITLES ON THE HISTORY OF WOMEN IN SCIENCE/BOTANY IN CURRENT HISTORICAL RESEARCH PUBLICATIONS

Bibliography	Number of titles	Number in Herbarium	Percentage in Herbarium
Jasanoff	2428	4 (4/2428)	0.16
Keller	60	2 (2/60)	3.33
Rose	744	7 (7/744)	0.94
Shepherd	192	3 (3/192)	1.56
Shteir	513	8 (8/513)	1.55

To determine the Herbarium's relative strength to the collections at Bowling Green State University (BGSU), The Ohio State University (OSU), and the University of Cincinnati (UC), the bibliography with the least matching titles (Keller) and the one with the most matches (Shteir) were searched online in OHIOLINK. The results are presented in Table II.

TABLE II

PERCENTAGE OF BOOKS ON THE HISTORY OF WOMEN IN SCIENCE/BOTANY IN THE HERBARIUM AND THREE OHIOLINK LIBRARIES.

		Percentages			
	Number of Titles	Herbarium %	BGSU %	OSU %	UC %
Keller	60	(2/60) 3.3	(46/60) 76	(47/60) 78	(43/60) 71
Shteir	513	(8/513) 1.5	(126/513) 25	(189/513) 37	(217/513) 42

The Herbarium Library is very weak compared to any of the other three OHIOLINK libraries. The closest to it is Bowling Green in the Shteir bibliography, but 25% is still much larger than the Herbarium's highest percentage of 3.3%. In terms of relative standing at the four libraries, then, the Herbarium is a very weak fourth.

The bibliography with the least Herbarium titles (Keller) is part of the ***Oxford Readings in Feminism*** and is composed of seventeen articles which reflect feminist contributions to current scientific thought. The bibliography with the most matching Herbarium titles, (Shteir), although written from a British point of view, is very useful to historians since it is divided into primary and secondary sources. Although the Herbarium's women's collection is composed of secondary sources, Shteir's primary listings can provide an insight as to why Dr. Rudolph may have chosen a particular woman to study.

Future research might be conducted, using Shteir's primary entries as a valuable tool to evaluate the Rare Books room in the Herbarium Library, since Dr. Rudolph collected the original works of several prominent women botanists, both American and European, such as Almira Hart Lincoln Phelps, and Jane Loudon.

Although only thirteen Herbarium titles were found, the distribution among the five bibliographies is interesting, with the feminist theory authors in the majority. This distribution is presented in Table III. (The list of titles is in Appendix A).

TABLE III.

HERBARIUM AUTHORS FOUND IN THE FIVE TEST BIBLIOGRAPHIES.

BIBLIOGRAPHIES				
JASANOFF	KELLER	ROSE	SHEPHERD	SHTEIR
				Abir
		Alic		Alic
				Bonta
Cole				
				Gifford
				Howe
Keller	Keller	Keller	Keller	Keller
Merchant	Merchant	Merchant	Merchant	
		Mozans		
				Norwood
Rossiter		Rossiter		Rossiter
			Sicherman	
		Siegel		

CONCLUSION

With such a low rate of titles found, less than 5% of any of the five test bibliographies, the Herbarium Library could not have supported the historical research of the five books published between 1993-1996. The Herbarium Library is also very weak in relative standing to the collections of The Ohio State University, Bowling Green State University, and the University of Cincinnati.

However, in research, what isn't found may be as important as what is found. Therefore, further research is indicated , because ninety-four Herbarium titles were not found in any of the bibliographies. Was this due to lack of relevance or just the fact that no one is aware that they exist? A follow-up search of all 107 Herbarium titles on OHIOLINK revealed the following statistics: Bowling Green owned 34/107 (31.7%), OSU owned 50/107 (46.7%), and UC owned 50/107 (46.7%) with only thirteen not listed at any OHIOLINK institution. A search of all 107 Herbarium titles in the OCLC database would give an indication of what is available outside OHIOLINK and might explain whether or not they are unique to Ohio institutions.

Since almost 50% of the Herbarium titles are already listed in OHIOLINK, it would seem prudent to let the The Ohio State University Libraries add to their collection in women's studies and use the limited Herbarium funds for another, more frequently used subject area.

REFERENCES

Baker, Sharon L. and F. Wilfred Lancaster. 1991. ***The measurement and evaluation of library services.*** Arlington:Information Resources Press, 39,45,46-7.

Coale, Robert Peerling. 1965. Evaluation of a research library collection:Latin-American colonial history at the Newberry. ***The Library Quarterly,*** 35:173-175.

Dedication Brochure. Emanuel and Ann W. Rudolph Memorial Library Room of the OSU Herbarium Library. 21 May 1993.

Hall, Blaine H. 1985. ***Collection assessment manual for college and University*** Phoenix:Oryx Press,14,34.

Jasanoff, Sheila et al. 1995. ***Handbook of science and technology studies.*** Thousand Oaks:Sage Publications.

Kelland, J. L. 1985. An evaluation of the vertebrate zoology collection at the R.M. Cooper Library, Clemson University. ***Collection Management,*** 7:33-36.

Keller, Evelyn Fox and Helen E. Longino. ed. 1996. ***Feminism and Science.*** Oxford:Oxford University Press.

Lancaster, F. W. 1993. ***If you want to evaluate your library...*** Champaign:University of Illinois, 31.

The OAS Newsletter. 1992. Memorial for Emanuel D. Rudolph. A supplement to ***The Ohio Journal of Science.*** December 1992, 164H.

Popovich, C. J. 1978. The characteristics of a collection for research in business/ management. ***College and Research Libraries,*** 39:111.

Porta, M. A. and F. W. Lancaster. 1988. Evaluation of a scholarly collection in a specific subject area by bibliographic checking. ***Libri,***38:133-137.

Rose, Hilary. 1994. ***Love, power, and knowledge.*** Bloomington:Indiana University.

Shepherd, Linda Jean, Ph.D. 1993. ***Lifting the veil:the feminine face of science.*** Boston:Shambhala.

Shteir, Ann B. 1996. ***Cultivating women, cultivating science.*** Baltimore:Johns Hopkins University.

Stelk, Roger Edward and F. Wilfrid Lancaster. 1990b. The use of textbooks in evaluating the collection of an undergraduate library. ***Library acquisitions:Practice and Theory,*** 14:191,193.

Stuckey, Ronald L. 1995. Dedicated to the memory of Ann Herrick (Waterman)Rudolph(1934-1991) and Emanuel David "Rudy" Rudolph(1927-1992). ***The Michigan Botanist,*** 34:16.

Stuckey, Ronald L. 1994. Emanuel David Rudolph(1927-1992):polar lichenologist and historian of botany. ***The Bryologist,*** 97:439,441,444.

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APPENDIX A

HERBARIUM TITLES FOUND IN THE FIVE TEST BIBLIOGRAPHIES

Abir-AM, Pnina and Dorinda Outram, editors. 1987. ***Uneasy Careersand Intimate Lives:Women in Science, 1789-1979.*** New Brunswick:Rutgers University.

Alic, Margaret. 1986. ***Hypatia's Heritage:a History of Women in Science from Antiquity through the Nineteenth Century.*** Boston:Beacon Press.

Bonta, Marcia Myers. 1991. ***Women in the Field:America's Pioneering Women Naturalists.*** College Station, Texas:Texas A & M University.

Cole, Jonathan R. 1987. ***Fair Science:Women in the Scientific Community.*** New York:Columbia University Press.

Gifford, Isabella. [1848?]. ***The Marine Botanist:an Introduction to the Study of Algology.*** London:Darton and Co.

Howe, Bea. 1961. ***Lady with Green Fingers:the Life of Jane Loudon.*** London:Country Life Limited.

Keller, Evelyn Fox. 1983. ***A Feeling for the Organism:the Life and Work of Barbara McClintock.*** San Francisco:W.H. Freeman & Co.

Merchant, Carolyn. 1980. ***The Death of Nature:Women, Ecology and the Scientific Revolution*** . San Francisco:Harper & Row.

Mozans, H. J. 1913. ***Woman in Science.*** Cambridge:The MIT Press.

Norwood, Vera. 1993. ***Made from this Earth.*** Chapel Hill:University of North Carolina.

Rossiter, Margaret W. 1982. ***Women Scientists in America:Struggles and Strategies to 1940.*** Baltimore:Johns Hopkins University.

Sicherman, Barbara and Carol Hurd Green, editors. 1980. ***Notable American Women: the Modern Period.*** Cambridge:Belknap Press of Harvard University Press.

Siegel, Patricia Joan and Kay Thomas Finley. 1985. ***Women in the Scientific Search:an American Bio-Bibliography, 1724-1979.*** Metuchen,N.J.:The Scarecrow Press.

APPENDIX B

HERBARIUM TITLES NOT FOUND IN OHIOLINK

Cook, William. 1987. ***The WEN, the BOTANY and the MEXICAN HAT:the Adventures of the first Women through the Grand Canyon on the Nevills Expedition.*** Orangevale, CAL:Callisto Books.

Dakin, Susanna Bryant. 1954. ***The Perennial Adventure:a Tribute to Alice Eastwood, 1859-1953.*** San Francisco:California Academy of Sciences.

Gehman, Mary and Nancy Ries. 1988. ***Women and New Orleans:a History.*** New Orleans:Margaret Media Inc.

Hayden, Ruth. 1980. ***Mrs. Delany:her Life and her Flowers.*** London:British Museum Publications Ltd.

Horowitz, Helen Lefkowitz. 1984. ***Alma Mater:Design and Experience in the Women's Colleges fomr their Nineteenth Century beginnings to the 1930's.*** Boston:Beacon Press.

Johnson, Louisa. 1856. ***Every Lady Her Own Flower Gardener.*** N.Y.:C.M. Saxton & Co.

Miller, Ethel Melsheimer, compiler. 1932. ***Bibliography of Ohio Botany.*** Columbus,OH:Ohio State University

Parkman, Mary R. 1917. ***Heroines of Service.*** N..Y.:The Century Co.

Rutz, Miriam Easton, compiler. 1987. ***Proceedings for Landscapes and Gardens:Women Who Made a Difference.*** Michigan State University.

Stern, Madeleine B. 1963. ***We the Women:Career Firstsof Nineteenth-Century America.*** N.Y.:Schulte Publishing Co.

Stuckey, Ronald L., compiler. 1990. ***E. Lucy Braun:Ohio's Foremost Woman Botanist.*** Columbus:Zip Services.

Stuckey, Ronald L., compiler/ed. 1988. ***Happy 90th Birthday, Clara!*** Columbus,OH:OSU Biological Survery.

Thomas, Henry and Dana Lee Thomas. 1942. ***Living Biographies of Famous Women.*** Garden City, N.Y.:Blue Ribbon Books.